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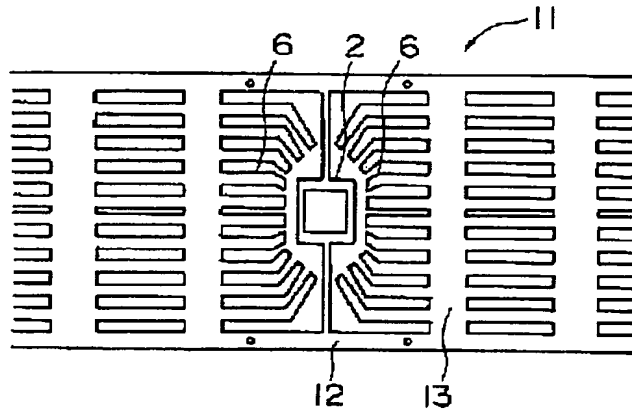
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TITLE : COMPOSITE MATERIAL FOR LEAD
FRAME AND SEMICONDUCTOR
PACKAGE USING IT



ABSTRACT : PROBLEM TO BE SOLVED: To produce an inexpensive base stock for a lead frame provided with mechanical strength that a lead material is not easily deformed, capable of radiating the heat generation of an element with high efficiency, excellent in electric characteristics and good in etching and punching properties needed for the pattern formation of a lead frame, to provide a method for producing it and to provide a semiconductor package using it.

SOLUTION: A lead frame 1 is formed from a composite material for a lead frame by punching or etching. The composite material for a lead frame is a composite rolled material contg. copper(Cu) and ≥ 50 wt.% molybdenum(Mo) and has 40 to 250 μm sheet thickness, 160 to 250 W/m k thermal conductivity, 180 to 280 GPa Young's modulus, $\leq 11 \times 10^{-6}/\text{K}$ thermal expansion coefficient and ≤ 10 g/cm³ density. For producing this composite material for a lead frame, powder obtd. by sufficiently mixing Cu powder of ≤ 30 μm and Mo powder of 2 to 6 μm so as to contain copper(Cu) and ≥ 50 wt.% molybdenum(Mo) is mixed with a binder, and kneaded sufficiently, and, after that, it is subjected to extrusion molding, sintering and cold rolling or warm rolling to obtain a Cu-Mo composite rolled material.

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